2001 NORTH IDAHO VOLUNTARY FIELD BURNING SMOKE MANAGEMENT PLAN

Purpose

The purpose of this document is to identify the responsibilities of the various entities involved in the successful implementation of an agricultural field burning smoke management plan for Kootenai and Benewah counties. This document shall be updated annually and is effective from the date of adoption by the Idaho Smoke Management Advisory Board. This document shall remain in effect until it is replaced by the following year's signed plan. This plan is applicable for the period from July 1, 2001 to June 30, 2002.

Introduction

Agricultural fields are burned annually in north Idaho to control disease, weeds and pests, remove crop residue, and for other agronomic reasons. Agricultural field burning is a practice that has been used for over twenty years in this area. Field burning is used extensively by the grass seed growers as this part of north Idaho has developed into the largest region in the United States for the production of Kentucky Blue grass seed.

In 1985, the Idaho State Legislature passed legislation to create a voluntary smoke management program for Kootenai and Benewah counties, Idaho Code §39-2301 to 2305. Idaho Code §39-2304 created the Idaho Smoke Management Advisory Board (ISMAB) to advise the Idaho Department of Environmental Quality[1] (DEQ) in the administration and enforcement of the code provisions. In 1999, the Legislature revised the Idaho Code to provide the Idaho Department of Agriculture greater responsibility and authority in smoke management and crop residue disposal. The previous code was repealed and replaced with Idaho Code §22-4801 to 4804. A copy of the Idaho chapter for smoke management and crop residue disposal is attached in Appendix A of this document.

The goal of this smoke management plan is to minimize smoke impacts on the surrounding communities through the coordinated planning efforts of the ISMAB, the growers, the agricultural industry association, and the DEQ. Smoke impacts are minimized by utilizing reasonable efforts to dissipate smoke throughout designated areas in such a manner that air quality is maintained within the current state and federal ambient air quality standards. This plan also encourages an exploration of methods that will result in smoke abatement from field burning. These abatement methods could

[1]In the 1999 Idaho Legislative session, the Divison of Environmental Quality was elevated to departmental status effective July 1, 2000.

include but are not limited to; 1) finding economical alternatives to burning, and 2) reducing the amount of particulate emissions caused by burning.

Geographic Area

This smoke management plan is applicable to **all agricultural field burning** that occurs within Kootenai and Benewah counties throughout the year, excluding those agricultural fields that lie within the exterior boundaries of the Coeur d'Alene Indian Reservation. The Coeur d'Alene Tribe operates a smoke management program for all the agricultural field burning that occurs within the tribal boundaries. The Coeur d'Alene Tribe coordinates with the other regional smoke management programs to also minimize smoke impacts and protect air quality.

Due to variations in cropping systems, growers along the Coeur d'Alene River in the eastern part of Kootenai County may operate on a separate timetable than growers in other parts of Kootenai and Benewah County.

Fees and Registration

As outlined in the Idaho Code §22-4803, any person planning to conduct agricultural field burning in Kootenai and Benewah counties must first register each field with the DEQ. A fee of one dollar ($1.00) per acre of cropland to be burned must be paid prior to field ignition. DEQ will send the registration forms to the growers based on the registrations received the previous year. Any new growers which have not previously registered their fields for this program must contact DEQ to request the appropriate forms. Registration forms are also available at the DEQ office located at the following address:

Idaho Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, Idaho 83814
Phone: (208)769-1422 Fax: (208)769-1404

DEQ will compile the registration forms and make them available to the grower's association as needed. These forms also become a public record and are made available to the public when information requests are submitted, as per Idaho Code §9-338. DEQ shall remit all registration fees to the state treasurer for deposit into the state agricultural smoke management account.

Requests for refund of registration fees shall be reviewed by the ISMAB.

Plan Operation Overview

To meet the conditions of the voluntary smoke management plan, the North Idaho Farmers Association (NIFA)[2] and DEQ have worked in a cooperative manner to implement the program. The growers association maintains a seasonal weather station on the Rathdrum Prairie which is staffed by a qualified meteorologist and other support staff. This station and its staff are primarily responsible for coordinating the field burning activities of the growers in north Idaho.

DEQ maintains a network of air quality monitoring sites in north Idaho. These sites are operated and maintained to meet federal requirements for data representativeness and reporting criteria. The sites include instruments to measure criteria pollutants and at some sites, localized weather conditions. The pollutant specifically measured is particulate matter or PM. DEQ also develops and maintains additional sites specifically to support this smoke management plan. These sites are typically maintained for a short duration during the field burning season. The equipment used at these sites varies but usually non-reference methods are employed to monitor air quality trends during field burning season. A list of the monitoring sites, the type of equipment and data access for each monitoring device is contained in Appendix B. DEQ has provided the meteorologist with electronic access to all the real-time monitoring devices applicable to the smoke management program.

DEQ has the responsibility of receiving and tracking complaints associated with the field burning activities. In recent years, DEQ has received approval from the ISMAB to contract with a phone message service to respond to the majority of the complaints. DEQ will establish a contract with a local company to operate the complaint line for the 2001 season. They will provide a local number and a toll free number to receive complaints and comments concerning field burning. The contractor will summarize the number of calls received from the previous day and send a summary each morning via fax to the DEQ office.

Applicable Crop Types

This smoke management program is applicable to all of the crop types identified in the Idaho Code which are required to register for burning. This includes residue burning for all cereal grain crops as well as forage grass fields and turf grass fields.

[2]Historically, the Intermountain Grass Growers Association (IGGA) participated in this plan. The NIFA was recently organized to represent the agricultural interests of farmers and will replace the IGGA in this region.

Field Burning Restrictions

Based on historical agreements concerning limitations on field burning, the growers will burn only on the weekdays, Monday through Thursday. The growers have agreed to not burn on Friday, Saturday and Sunday, and not burn on the Labor Day holiday. Field burning will be limited to a total of 14 burn days within a 45-day window. The NIFA meteorologist and the DEQ monitoring network will be operationally ready starting August 1, but the official burn season (45-day window) does not start until the first field is ignited. Again, these conditions are limited to the agricultural fields located in the geographic area described in the section above. The burn window for fields adjacent to the Coeur d'Alene River shall end on the second Thursday of October at 5:00 p.m. PDT.

Growers whose agronomic practices result in burn dates that are incompatible with the 45-day window described above have the responsibility to obtain the best available local meteorological information for good smoke dispersion. Sources of that information may include but are not limited to, the meteorological services of the NIFA, the ISDA statewide burn decision (when promulgated), or other comparable services.

A registered grower may burn up to 10 acres per day as a test burn to observe smoke dispersion conditions. Test burns limited to 10 acres per day are not counted as one of the fourteen allowed burn days. The test fire must be extinguished if smoke dispersion is not satisfactory, as determined by the grower meteorologist coordinating the burns. If the test burn is not extinguished and the number of acres burned exceeds the 10-acre limit, then that day shall count as a burn day.

During certain years, weather conditions and other factors may contribute to incomplete burns, especially on the grass seed fields. The grower may need to perform additional burning using mechanical equipment. This type of burning is referred to as reburning. If the total number of acres reburned in a day exceeds 500 acres, then that day is counted as a burn day. The grower must coordinate with the growers' association meteorologist prior to reburning any fields. Reburning is allowed on Fridays, after the Labor Day weekend. No reburning is allowed on Saturdays, Sundays, holidays, or Fridays prior to Labor Day.

All open burning is prohibited during an Air Stagnation Advisory. Air Stagnation Advisories are determined by DEQ (IDAPA 58.01.01.550) and announced to the general public through press releases.

Specific Plan Operations -- Applicable to **All** Registered Fields (Grass and Cereal Grains)

1. In the morning, the NIFA meteorologist will evaluate the local weather conditions utilizing various weather information sources that are available. The meteorologist will have electronic access to four meteorological sites maintained by DEQ. These sites are located in CDA, Sandpoint, Pinehurst, and near Rathdrum.

2. Based on the weather evaluation, the NIFA meteorologist will decide if conditions are appropriate for good smoke dispersion. If the local weather conditions are favorable, the meteorologist then designates which growers can begin field burning operations. The meteorologist will also contact the DEQ office by 9:30 a.m. each day to provide a status update on conditions for burning. A no-burn decision will be posted on the weather station answering machine in the event the meteorologist is not available throughout the day.

3. During the burn period, the NIFA meteorologist will monitor $PM_{2.5}$ and PM_{10} concentrations by electronically accessing real-time data collected in CDA, Post Falls, and Sandpoint. The meteorologist will also have electronic access to nephelometers deployed by DEQ for this seasonal smoke management program. The nephelometer provides an indirect measurement of PM as Beta Scattering Coefficient (BSC).

4. If the $PM_{2.5}$ concentration[3], or BSC equivalent, at any one of the monitoring sites reaches 60 ug/m3 for a one-hour average during the burn period, the meteorologist will reevaluate the meteorological conditions for smoke dispersion to minimize further impacts.

5. If the $PM_{2.5}$ concentration, or BSC equivalent, at any one of the monitoring sites reaches 80 ug/m3 for a one-hour average during the burn period, all field burning will be curtailed and no additional fields allowed for burning for the rest of the day. Existing burns are allowed to burn out. The grower(s) may take additional action to increase the burn rate to complete an existing field burn(s) once a curtailment is announced.

6. It is the responsibility of the NIFA meteorologist to make these decisions which limit or curtail field burning. DEQ will be available for consultation.

7. If weather conditions change and particulate levels drop below the trigger levels identified above, the NIFA meteorologist has the discretion to decide whether to continue burning. DEQ will be available for consultation.

8. On the morning following a burn day, the NIFA meteorologist will again evaluate the weather conditions for good smoke dispersion, the previous burn day events, and the current air quality conditions before providing approval to continue fielding burning that day.

[3]In 1999, the ISMAB decided to use $PM_{2.5}$ concentrations for trigger levels instead of PM_{10}. The ISMAB chose levels that would minimize impact on public health and not impede smoke management decisions.

9. If site specific meteorological support is unavailable, the grower has the responsibility to obtain the best available meteorological information to determine whether or not to proceed with agricultural field burning. The grower is subject to a Level Two penalty, as described in this plan, if field burning is conducted during poor smoke dispersion conditions.

To ensure good communication and coordination, it will be necessary for the growers to carry with them some type of communication, such as a pager, radio or cellular phone, while in the field in the event the meteorologist has to curtail or suspend burning for a period of time.

Enforcement Team and Fines

A three member enforcement team consisting of a representative from the North Idaho Farmers Association, the Idaho Department of Environmental Quality, and the Idaho Smoke Management Advisory Board shall respond to any alleged violations of the voluntary smoke management program or any alleged violations of Idaho Code §22-4804. If a violation of the plan is confirmed by the enforcement team, the grower may be subject to financial penalties as imposed by this plan. The penalties are described below.

A. Level One Fine is $500.00 per field plus $10.00 per acre burned. The criteria for a level one fine are as follows;
    I. burning a field without first registering the field, or
    ii. burning a field on a Friday, Saturday or Sunday, or
    iii. burning a field on the Labor Day holiday, or
    iv. burning a field without receiving approval from the growers association meteorologist.

B. Level Two Fine is $250.00 per field and is subject to the discretion of the enforcement team. The criteria for a level two fine are as follows;
    I. burning a field after the designated hours, which are defined by the grower meteorologist, or
    ii. violating other conditions identified on the burn permit, or
    iii. using poor fire management as determined by the enforcement team.

The enforcement team will send a written notification to the grower identifying the alleged violation(s) and the penalty amount as determined by the enforcement team. Appeals to penalties shall be made available and the Idaho Smoke Management Advisory Board (ISMAB) shall hear any appeals. Monetary fines are made out to the Idaho Department of Environmental Quality for deposit into the state agricultural smoke management account. This dedicated account is managed by the ISMAB.

Season End Summary

After each field burning season, DEQ and the growers association will develop summary reports to provide an overview of the program for the year.

SIGNATURES:

/S/ Date: 6/21/01
Gwen P. Fransen, Regional Administrator
Idaho Department of Environmental Quality

/S/ Date: 6/20/01
Bill Dole, Chairman
Idaho Smoke Management Advisory Board

/S/ Date: 7/18/01
Terry Jacklin
North Idaho Farmers Association

APPENDIX A

TITLE 22
AGRICULTURE AND HORTICULTURE
CHAPTER 48
SMOKE MANAGEMENT AND CROP RESIDUE DISPOSAL

22-4801. LEGISLATIVE FINDINGS AND INTENT.
The legislature finds that the current knowledge and technology support the practice of burning crop residue to control disease, weeds, pests, and to enhance crop rotations. It is the intent of the legislature to promote agricultural activities. Currently some of those activities include crop residue burning. The director of the Idaho department of agriculture may promulgate rules relating to crop residue burning under this chapter. Further, the legislature encourages the Idaho department of agriculture and the Idaho department of health and welfare, division of environmental quality to cooperate with the agricultural community and establish voluntary smoke management and crop residue burning programs. The legislature encourages the Idaho department of agriculture and the agricultural community to pursue alternative means to crop residue disposal. Nothing in this chapter shall prohibit the Idaho department of health and welfare, division of environmental quality from enforcing the environmental protection and health act, chapter 1, title 39, Idaho Code, and the rules promulgated pursuant thereto, as they relate to air quality and protection of the state and national ambient air quality standards.

22-4802. DEFINITIONS. In this chapter
(1) "Adequate smoke dispersion" means that favorable meteorological and air quality conditions exist to allow crop residue burning to occur without endangering ambient air quality standards.
(2) "Cereal grain field" means a field of grass cultivated for edible seeds such as wheat, oats, barley, rye, rice, maize, grain, sorghum and proso millet.
(3) "Crop residue" means any vegetative material remaining in the field after harvest and shall not include weeds along ditch banks or waterways, orchard prunings, or forest slash piles.
(4) "Department" means the Idaho department of agriculture.
(5) "DEQ" means the Idaho department of health and welfare, division of environmental quality.
(6) "Director" means the director of the Idaho department of agriculture.
(7) "Field grass" or "forage grass field" means a field which has been planted with one (1) of the following varieties of grass for the purpose of producing seed canary grass, bromegrass, oat grass, Timothy grass, wheat grass, or orchard grass.
(8) "Person" means a natural person, individual, firm, partnership, corporation, company, society, association, cooperative, two (2) or more persons having a joint or common interest, or any unit or agency of local, state or federal government.
(9) "Reasonable efforts" means, but is not limited to, the obtaining of any available information on local meteorological and air quality conditions and observing the smoke plume from small test fires or from other field burns.
(10) "Turf grass field" means a field which has been planted with one (1) of the following varieties of grass for the purpose of producing seed bluegrass, bent grass, fescues or perennial ryegrass.
22-4803. AGRICULTURAL FIELD BURNING.
(1) The open burning of crop residue grown in agricultural fields shall be an allowable form of open

burning when the provisions of this chapter, and any rules promulgated pursuant thereto, and the environmental protection and health act, and any rules promulgated pursuant thereto, are met, and when no other agricultural viable alternatives to burning are available, as determined by the director, for the purpose of

(a) Disposing of crop residues;

(b) Developing physiological conditions conducive to increased crop yields; or

(c) Controlling diseases, insects, pests or weed infestations.

(2) The following provisions shall apply to all agricultural field burning

(a) Any person conducting crop residue burning must make every reasonable effort to burn only when weather conditions are conducive to adequate smoke dispersion, and the burning does not emit particulates or other material which exceed the state and federal ambient air quality standards; and

(b) The open burning of crop residue shall be conducted in the field where it was generated.

(3) In Kootenai and Benewah counties, the legislature finds that there are a great many cereal grain, field grass, forage grass, and turf grass fields, and it is a practice to burn these fields to control disease, weeds and pests in these counties. Therefore, in Kootenai and Benewah counties, no person shall conduct or allow any crop residue burning without first registering each field with the DEQ each year burning is conducted. Approved forms for registering fields when needed may be obtained at the DEQ's Coeur d'Alene office. This provision is not met unless the forms contain all required information and are received by the DEQ prior to field ignition.

(4) The use of reburn machines, propane flamers, or other devices to ignite or reignite a field for the purpose of crop residue burning shall be considered an allowable form of open burning when the provisions of this chapter, and any rules promulgated pursuant thereto, the environmental protection and health act, and any rules promulgated thereto, are met.

22-4804. KOOTENAI AND BENEWAH COUNTIES -- AGRICULTURAL BURNING FEES -- ACCOUNT -- RULES -- RESEARCH -- MANAGEMENT PROGRAM.

(1) Any person who registers a field with the DEQ for agricultural burning in Kootenai or Benewah counties shall pay to the DEQ a fee of one dollar ($1.00) per acre of cropland to be burned. The DEQ shall remit all fees monthly to the state treasurer, who shall deposit the moneys in the state agricultural smoke management account which is hereby created. The board of health and welfare may, upon the recommendation of the DEQ, adopt rules pertaining to

(a) Collection, handling, and refund of fees established in subsection (1) of this section; and

(b) Disbursement of funds from the account as provided in subsection (2) of this section.

(2) The DEQ may use moneys from the agricultural smoke management account as appropriated annually by the legislature for

(a) Research to

(i) Develop alternative crops which do not require burning;

(ii) Improve burning and cultural practices for crops which may require burning; and

(iii) Explore alternatives to burning; and

(b) Supplementation of appropriated general account moneys for implementation of agricultural smoke management programs referenced in section 22-4801, Idaho Code.

(3) A smoke management advisory board is established in the DEQ to advise the DEQ administrator or his designee in the administration and enforcement of the provisions of this section by overseeing

the funds provided and to review and recommend research programs. The board shall consist of six (6) members three (3) from the agricultural community and three (3) nonagriculturists from the general public, appointed by the governor and to serve at the pleasure of the governor. The seventh member shall be ex officio and shall be the administrator of the DEQ or his designee.

(4) The board shall, on the first day of each July or as soon thereafter as practicable, elect a chairman and a vice chairman from among its members, and these officers shall hold office until their successors are elected. As soon as the board has elected it officers, the secretary shall certify the results of the election to the administrator of the DEQ. The chairman shall preside at all meetings of the board and the secretary shall make a record of the proceedings which shall be preserved in the offices of the DEQ. If the chairman is absent from any meeting of the board, his duties shall be discharged by the vice chairman. All members of the board present at a meeting shall be entitled to vote on any question, matter, or thing which properly comes before it.

APPENDIX B

Coeur d'Alene Regional Office

Air Quality Monitoring Network 2001

Status as of July 31, 2001

Site Location/Address	AIRS ID Number	Measurement Method	AIRS Method #	Equipment Type/Model #	Number Devices	Sampling Frequency	Program Type	Site Coordinates	
								Latitude	Longitude
Lakes Middle School	16-055-0006	High volume PM10	063	Andersen/GMW Model 1200 VFC (RFPS-1287-063)	Backup	1/6	SLAMS	47 40' 56.3332"	116 45' 55.9092"
930 N. 15th Street		Real-time PM10		Rupprecht & Patashnick Co., 1400 a TEOM	1	1/1	SLAMS; AQA, Smoke Mgmt		
Coeur d'Alene, ID 83814		Real-time PM2.5		Rupprecht & Patashnick Co., 1400 a TEOM w/ SCC	1	1/1	CORE - SPM for PM2.5 Network		
		Sequential FRM for PM2.5	117	Rupprecht & Patashnick Co., FRM Model 2025	2	1/3	CORE - Precision site for FRM 2025		
Kootenai Medical Center	16-055-0010	High volume PM10	063	Andersen/GMW Model 1200 VFC (RFPS-1287-063)	2	1/6	SLAMS, QA/QC	47 41' 54.2332"	116 47' 40.8934"
Hwy 95 and Interstate 90		Meteorological		Campbell Met Station	1	1/1	SLAMS, AQA		
Coeur d'Alene, ID 83814				(ws, wd, rh, temp., pressure, and solar rad.)		(15 min. avg)			
Post Falls Well Site	16-055-0009	High volume PM10	063	Andersen/GMW Model 1200 VFC (RFPS-1287-063)	1	1/6	SLAMS		
Syringa		Real-time PM2.5		Rupprecht & Patashnick Co., 1400 a TEOM w/ SCC	1	1/1	SLAMS; AQA, Smoke Mgmt		
Post Falls, ID 83854									
Meyer Ranch		Light scattering for PM		Radiance Research M903 Nephelometer	1	1/1	Smoke management	47 48' 10.0640"	116 47' 41.3531"
W. 855 Boekel Road						(seasonal)			
Hayden, ID 83835									
Avista Odorizer Station #600		Light scattering for PM		Radiance Research M903 Nephelometer	1	1/1	Smoke management		
Boekel Road						(seasonal)			
Rathdrum, ID									
Meyer Ranch - West		Meteorological		Campbell Met Station	1	1/1	SLAMS, AQA		
Hwy. 41 and Lancaster Rd.				(ws, wd, rh, temp., pressure, and solar rad.)		(15 min. avg)			
Rathdrum, ID 83858									
Mountain View Middle School	53-063-0001	Sequential FRM for PM2.5	117	Rupprecht & Patashnick Co., FRM Model 2025	1	1/3	CORE - SLAMS; Transport	47 42' 39.9907"	117 03' 13.8100"
6011 N. Chase Road									
Newman Lake, WA									
City of Athol Well Site		Light scattering for PM		Radiance Research M903 Nephelometer	1	1/1	Smoke management		
Grove Ave. and Pastime St.						(seasonal)			
Athol, ID 83801									
Fighting Creek Landfill		Light scattering for PM		Radiance Research M903 Nephelometer	1	1/1	Smoke management		
Hwy 95, South CDA						(seasonal)			
Sandpoint Middle School	16-017-0001	High volume PM10	063	Andersen/GMW Model 1200 VFC (RFPS-1287-063)	Backup	1/6	SLAMS		
N. Division Street		Real-time PM10		Rupprecht & Patashnick Co., 1400 a TEOM	1	1/1	SLAMS; AQA, Smoke Mgmt		
Sandpoint, ID 83864		Sequential FRM for PM2.5	117	Rupprecht & Patashnick Co., FRM Model 2025	1	1/3	CORE - SLAMS		
Sandpoint Met Station		Meteorological		Campbell Met Station	1	1/1	SLAMS, AQA		
U of I Ag Research Station				(ws, wd, rh, temp., pressure, and solar rad.)		(15 min. avg)			
Boyer Avenue									
Sandpoint, ID 83864									
Pinehurst Elementary School	16-079-0017	High volume PM10	063	Andersen/GMW Model 1200 VFC (RFPS-1287-063)	Backup	1/6	SLAMS	47 32' 12.2072"	116 14' 12.9599"
106 Church Street		Meteorological		Campbell Met Station (ws, wd, temp, and solar rad.)	1	1/1	SLAMS, AQA		
Pinehurst, ID 83850		Real-time PM10		Rupprecht & Patashnick Co., 1400 a TEOM	1	1/1	SLAMS; AQA, Smoke Mgmt		
		Sequential FRM for PM2.5	117	Rupprecht & Patashnick Co., FRM Model 2025	1	1/3	CORE - SLAMS		
Doctors Clinic	16-079-0006	High volume TSP/Lead	091	Sierra Andersen SA2310	1	1/6	SLAMS	47 32' 35.9715"	116 07' 39.5434"
204 Oregon									
Kellogg, ID 83837									

NOTE: SLAMS - State and Local Air Monitoring Station, AQA - Air Quality Advisory, TSP - Total Suspended Particulates, CORE - Community oriented monitoring, SPM - special purpose monitor

Sampling frequency; 1/1 is everyday sampling, 1/3 is every third day sampling, 1/6 is every sixth day sampling

High Volume PM10 samplers at Lakes, Sandpoint and Pinehurst sites are no longer the primary reporting method and are backup samplers for the PM10 TEOM's.